

REMARKS/DISCUSSION OF ISSUES

Claims 1-8 are pending in the application. Claims 1-8 are rejected. The specification is objected to.

The specification is objected to as failing to provide antecedent basis for the claimed subject matter, in that the term 'curvilinear' used in the claims is not present in the specification. The Examiner has suggested to replace the term 'curvilinear' with the term 'elliptical', which appears at page 4, line 25 of the specification in the phrase 'elliptical cross-section' to describe the fluid jet depicted in Fig. 1b.

Applicant's specification provides three examples of jets. These are illustrated in cross-section in Figs. 1a, 1b and 1c. In Figs. 1a, 1c, the cross-sections of the jets are circular. In Fig. 1b, the cross-section of the jet is elliptical.

Thus, Appellant's jet is characterized by having a curvilinear cross-section, and if the term 'curvilinear' were to be replaced with the term 'elliptical' as suggested by the Examiner, it would result in Applicant having claimed less than he has a right to claim.

Moreover, even though the specification does not contain the term 'curvilinear', the meaning of the term is clear. As stated by the Examiner, 'curvilinear' means 'consisting of or bound by curved lines'. As already pointed out, the specification discloses jets having both circular and elliptical cross-sections, and thus the generic term 'curvilinear' is clearly supported.

Accordingly, it is urged that the objection to the specification be withdrawn.

Claims 1-4 and 6-8 are finally rejected under 35 USC 103(a) as being unpatentable over Hertz in view of Noda and Wang.

In response to Applicant's prior argument that Noda's fluid target comprises a series of discontinuous droplets of liquid, not a continuous stream or jet of liquid, the Examiner has responded that Hertz shows a continuous stream or jet, and Noda is only relied upon to show the use of an electron beam instead of a laser beam.

However, in a rejection under Section 103, the entire teachings of the references must be considered, not just the parts of the teachings which are favorable to the Examiner's position.

Thus, Noda's teaching of droplets as the target must be considered, as a person skilled in the art would have considered it.

Moreover, there must be something in at least one of the references which would have suggested to the skilled artisan to make the combination urged by the Examiner.

However, Noda does not teach or suggest that an electron beam could be used with a continuous stream or jet, but only with a series of droplets.

Applicant's prior argument that the Hertz jet with a circular cross-section is not 'curvilinear' is withdrawn. However, Hertz still fails to teach or suggest the use of a charged particle beam instead of a laser beam, and Noda teaches the use of an electron beam with droplets only.

Thus, the combination of Hertz and Noda fails to teach or suggest the generation of X-rays by the use of charged particles with a fluid jet as a target, and the rejection is therefore in error and should be withdrawn.

With respect to claim 8, Wang discloses a scanning X-ray microscope, not a scanning electron microscope, as called for by claim 8. Moreover, Wang's microscope uses a foil target, not a fluid target, as also called for by claim 8, by virtue of its dependence on claim 6.

Accordingly, the rejection of claim 8 is in error and should be withdrawn.

Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Hertz in view of Noda as applied above, and further in view of Wang and Iketaki.

Wang discloses an X-ray microscope (Fig. 1) having an electron beam (9) produced by an electron gun (3) and X-rays produced by impingement of beam (9) on a foil target (12) adjacent to a sample (14).

Wang fails to disclose an electron gun from a cathode ray tube, or a fluid target or a condenser lens between the target and the sample, as called for by claim 5.

Iketaki discloses an x-ray microscope (Fig. 7) including a source (21-23), a sample (27) and a condenser lens (24) between the source and the sample. However, the source comprises a source of laser radiation (21) and a target (23) positioned upstream of the sample (27).

Since Wang and Iketaki use different sources to generate X-rays, and thus position the targets differently, the teachings of the two references are incompatible.

Specifically, Wang uses an electron gun as a source of an electron beam, and positions the target (12) adjacent to the sample (14). Thus, there is no need for a condenser lens between the target and the sample.

Iketaki uses a laser beam and a target positioned upstream of the sample, so that a condenser lens is needed to focus the beam from the target onto the sample.

The skilled artisan would therefore not be led to insert a condenser lens between the target and sample of Wang in view of the teachings of Iketaki.

Accordingly, the rejection of claim 5 is in error and should be withdrawn.

In the final Office action, the Examiner has replaced the old rejection of claims 1-4, 6 and 7 over Hertz and Noda, and the old rejection of claim 8 over Hertz, Noda and Wang, with a new rejection of claims 1-4 and 6-8 over Hertz, Noda and Wang. This change was not necessitated by any amendments made by Applicant. Thus, the finality of the Office action is inappropriate and should be withdrawn.

In conclusion, Applicant respectfully requests that the Examiner withdraw the finality of the Office action, as well as the objection and rejections of record, and allow all the pending claims, and find the application to be in condition for allowance.

Respectfully submitted,

  
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